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Intel Docket No.: P7867

LISTING OF PENDING CLAIMS:

The following is a listing of the currently pending claims.
The claims have not been amended in this response.

1. (Original) A processor, comprising:

a module configured to collect status data from devices connected to a bus, the status data indicating readiness of the devices to participate in data transfers;

one or more processing engines to schedule transfers of data packets; and

a push engine to perform unsolicited transfers of the status data to the processing engines in response to the module collecting new status data.

2. (Original) The processor of claim 1, wherein the processing engines comprise:

one or more input transfer registers to receive the unsolicited transfers of status data for use to schedule the transfers of data packets.

3. (Original) The processor of claim 2, wherein the processing engines use a portion of received new status data to schedule retrievals of data packets from the devices.

4. (Original) The processor of claim 2, wherein the processing engines use a portion of the received status data to schedule transmissions of data packets.

5. (Original) The processor of claim 4, wherein the processing engines use a portion of the received status data to determine whether schedule transmissions of data packets have been completed.

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6.   (Original) The processor of claim 1, wherein the module is configured to poll the devices for the status data over a second bus.

7.   (Original) The processor of claim 2, wherein a portion of the status data are flags indicative of whether associated devices have data packets to transmit.

8.   (Original) The processor of claim 2, wherein a portion of the status data includes flags indicative of whether associated devices have space to receive data packets.

9.   (Original) A method of transferring data packets over a bus, comprising:
collecting information on readiness of devices connected to the bus to one of transmit and receive data packets; and
transferring a portion of the collected information to a processing engine configured to schedule data transfers, the transferring being unsolicited by the processing engine.

10.   (Original) The method of claim 9, further comprising:
scheduling data transfers with a portion of the devices based on the transferred portion of the collected information.

11.   (Original) The method of claim 10, wherein scheduling further includes:
determining whether the transferred information is at least partly new; and
wherein the scheduling is performed in response to the transferred information being at least partly new.

12.   (Original) The method of claim 10, wherein determining includes comparing a value of a time stamp transferred with the information to a previous value of the time stamp.

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13. (Original) The method of claim 10, wherein scheduling further comprises: determining whether an earlier scheduled data transfer have been completed from the transferred information.

14. (Original) The method of claim 10, wherein collecting further comprises: polling the devices for ready status data on the availability of ports thereon; and receiving ready status data associated with individual ones of the devices in response to the polling.

15. (Previously Amended) The method of claim 12, wherein collecting further comprises:

writing the received ready status data to a status register; and

scheduling transfers of data packets over the bus in response to the transferred portion of the ready status data.

16. (Original) The method of claim 9, wherein the transferred portion of the information includes flags that indicate whether associated ports of the devices have one of space to receive data packets and data packets ready to transmit over the bus.

17. (Original) The method of claim 16, further comprising:

polling the ports of the devices over a second bus to determine values of the flags.

18. (Previously amended) A router, comprising:

a bus; and

a parallel processor coupled to the bus and comprising:

a plurality of processing engines to process data transfers with a plurality of devices connected to the bus; and

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an interface connected to collect ready status data from the devices and to automatically transfer ready status data to the processing engines in response to the status data being collected, the status data indicating readiness of the devices to participate in data transfers.

19.   (Original) The router of claim 18, wherein the ready status data indicates the readiness of individual ones of the devices to one of receive a data packet from and transmit a data packet to the parallel processor.

20.   (Original) The router of claim 18, wherein the ready status data includes a time stamp indicative of a staleness of the ready status data.

21.   (Original) The router of claim 18, wherein a portion of the ready status data includes information to enable the processing engines to identify which scheduled data transfers to the devices have been completed.

22.   (Original) The router of claim 18, further comprising:
a ready bus capable of transferring ready status data from the devices to the interface.

23.   (Original) The router of claim 19, wherein the ready status data indicates whether associated ports of the devices are ready to perform one of a transmission of a data packet to the bus and a receive of a data packet from the bus.

24.   (Original) The router of claim 20, wherein each processing engine comprises at least one input transfer register; and
the interface is configured to write ready status data to one of the input transfer registers assigned to a scheduler thread.

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25. (Original) The router of claim 24, wherein the interface is configured to protect one of the input transfer registers from being read by the processing engines during the transferring of ready status data thereto.

26. (Original) The router of claim 18, wherein the devices are capable of transmitting data packets between the bus and external networks.

27. (Original) The router of claim 18, wherein the interface transfers the collected status data without being solicited to transfer the data by the processing engines.

28. (Original) An article comprising a computer-readable medium which stores executable instructions for transferring data packets over a bus, the instructions causing a processor to:

collect information on readiness of devices connected to the bus to one of transmit and receive data packets; and

transfer a portion of the collected information to a processing engine configured to schedule data transfers, the transferring being unsolicited by the processing engine.

29. (Original) The article of claim 28, the instructions further causing the processor to:

schedule data transfers with a portion of the devices based on the transferred portion of the collected information.

30. (Original) The article of claim 29, the instructions further causing the processor to:

determine whether the transferred information is at least partly new; and

wherein instructions causing the processor to schedule are performed in response to determining that the transferred information being at least partly new.

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31.   (New) The processor of claim 1 in which the processing engines schedule the transfer of data packets independently of the module collecting status data from the devices.

32.   (New) The processor of claim 31 in which the processing engines schedule the transfer of data packets from a device to the bus independently of the readiness of other devices to receive the data, and schedule the transfer of data from the bus to a device independently of the readiness other devices to send the data.